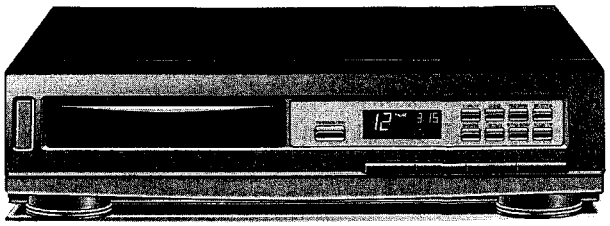
Compact disc player

AK630

/00 /01 /05 /10 /17 /01B /10B /13B /17B

Service
Service
Service

V14419



Service Manual

COMPACT disc DIGITAL AUDIO

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(S) Varning !
Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

(SF) Varoitus !
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

"Pour votre sécurite, ces documents doivent être utilisés par des spécialistes agrées, seuls habilités à réparer votre appareil en panne".

CLASS 1
LASER PRODUCT

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(NL) Service Testprogramma

Om in de servicestand te komen, dient u het apparaat in te schakelen terwijl u de toetsen "SELECT+" en "SELECT-" ingedrukt houdt. (µP reset)

U kunt het programma naar servicepositie "1" laten terugkeren door in een willekeurige servicepositie de toets "STOP" in te drukken.

Als u "SELECT-" indrukt, komt de slede naar buiten. Drukt u "SELECT+" in, dan gaat de slede naar binnen.

Servicepositie "1"
Controle van de radiale servo
De arm beweegt naar binnen en op het display worden de verticale segmenten geactiveerd (zie figuur 1). Als u "PREV" indrukt, beweegt de arm naar buiten en worden op het display de horizontale segmenten geactiveerd (zie figuur 2).

Servicepositie "2"
Controle van focusservo en draaitafelmotor.
U kunt servicepositie "2" activeren door "PLAY" in te drukken. Op het display verschijnt "00 00:00". De laser wordt ingeschakeld en de lens maakt een op- en neergaande beweging volgens de toegepaste driehoekspanning voor focuszoeken. Als u "PREV" indrukt, draait de draaitafelmotor linksom. Drukt u "NEXT" in, dan draait de draaitafelmotor rechtsom. Als een plaat in het apparaat is geplaatst en er kan een focus gevonden worden, verschijnt op het display "11 11:11".

Servicepositie "3"
U kunt servicepositie "3" activeren door "PLAY" in te drukken. De radiale sturing wordt ingeschakeld en als deze goed functioneert, volgt de arm het spoor. Op het display verschijnt "22 22:22".
Als u "PREV" indrukt, maakt de arm sprongen achteruit. Als u "NEXT" indrukt, springt de arm vooruit zolang de toets is ingedrukt.

Om het service testprogramma te verlaten, dient u het apparaat uit te schakelen.

(D) Service Testprogramm

Um in das Service Testprogramm zu gelangen, drücken Sie "SELECT+" und "SELECT-" während "POWER ON". (µP reset)

Durch Drücken der "STOP" Taste gelangt man von jeder Service Position in die Service Pos."1".

Durch Drücken von "SELECT-" bzw.
"SELECT+" fährt die Lade heraus bzw. hinein.

Service Pos. "1"
Test des Radial Servos
Der Arm wird nach innen bewegt. Das Display zeigt alle vertikalen Segmente (Siehe Fig.1). Durch Drücken der Taste "PREV" wird der Arm nach außen bewegt. Das Display zeigt alle horizontalen Segmente (Siehe Fig.2).

Service Pos. "2"
Test des Fokus Servos und des Disk Motors.
Die Service Pos."2" wird durch Drücken der Taste "PLAY" aktiviert. Das Display zeigt "00 00:00". Der Laser wird eingeschaltet und versucht zu fokussieren. (Linse wird mit Dreieckspannung auf und ab bewegt). Wenn Sie die Taste "PREV" drücken, dreht sich der Disk Motor gegen den Uhrzeigersinn. Bei "NEXT" läuft er im Uhrzeigersinn. Wenn Sie eine Disk eingelegt haben und die Fokussierung funktioniert, zeigt das Display "11 11:11".

Service Pos. "3"
Durch Drücken der "PLAY" Taste gelangen Sie in die Service Pos."3". Die Radialregelung wird eingeschaltet. Wenn die Radialregelung korrekt arbeitet, folgt der Arm der Spur. Das Display zeigt "22 22:22". Durch Drücken der Taste "PREV" macht der Arm kleine Sprünge zurück. Bei "NEXT" liest der µP den Subcode ein. Wenn das Einlesen des Subcodes funktioniert, macht der Arm kleine Sprünge vorwärts, solange Sie die "NEXT" Taste gedrückt halten.

Um das Service Testprogramm zu verlassen, müssen Sie das Gerät ausschalten.

(I) Programma test di servizio

Per entrare nel modo di servizio mantener premuto i tasti "SELECT+" e "SELECT-" mentre l'apparecchio viene acceso (mircroprocessore azzerato).

Il programma ritorna alla Posizione di servizio "1" premendo il tasto "STOP" a partire da qualsiasi posizione di servizio.

Premendo il tasto "SELECT-", il piatto si sposterà verso l'esterno e premendo il tasto "SELECT+", il piatto si sposterà verso l'interno.

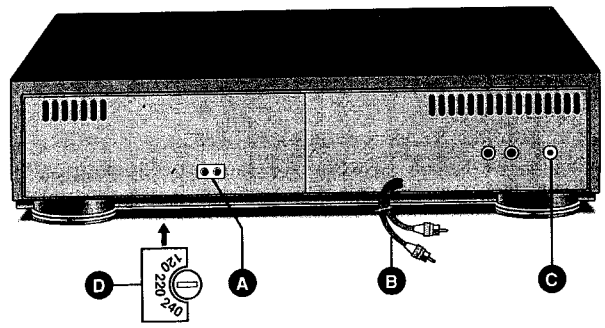
Posizione di servizio "1"
Test del servomeccanismo radiale
Il braccio è spostato verso l'esterno e sul display sono attivati dei segmenti verticali (fig.1). Premendo il tasto "PREV", il braccio si sposterà verso l'esterno e sul display verranno attivati dei segmenti orizzontali (fig.2).

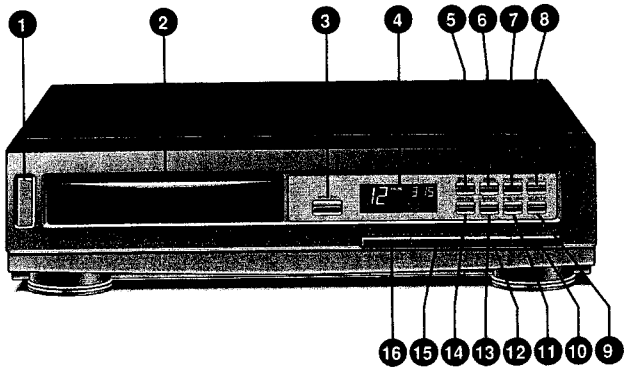
Posizione di servizio "2"
Test del servomeccanismo di messa a fuoco e del motorino del piatto
La posizione di servizio "2" viene attivata premendo il tasto "PLAY". Il display visualizza "00 00:00". Il laser viene inserito e la lente effettua un movimento dall'alto in basso conforme alla tensione triangolare applicata per la ricerca di messa a fuoco. Premendo il tasto "PREV", il motorino del piatto girevole girerà in senso antiorario e premendo il tasto "NEXT" questo gira in senso orario. Quando è stato inserito un disco ed è stata trovata la messa a fuoco, il display visualizzerà "11 11:11".

Posizione di servizio "3"
La posizione di servizio "3" viene attivata premendo il tasto "PLAY". Viene inserito il controllo radiale se funziona correttamente, il braccio segue il brano. Il display visualizza "22 22:22". Premendo il tasto "PREV", il braccio farà dei salti all'indietro. Premendo il tasto "NEXT", il microprocessore leggerà il subcodice. Se la lettura del subcodice funziona bene, il braccio farà dei salti in avanti fino a quando non verrà rilasciato il tasto "NEXT.

Per rilasciare il programma di servizio, spegnere l'apparecchio.

Connections & Controls





A	Mains socket	1001
B	Line out	Chinch
C	Remote in (RC5)	1601
D	Voltage selector (not in all versions)	1301

1	Power on	1600
2	Tray	
3	Open / Close	1713
4	Display	1700
5	Review	1712
6	Program	1711
7	Clear	1710
8	Select +	1709

9	Select –	1708
10	Play / Pause	1701
11	Intro scan	1707
12	Stop	1702
13	Repeat	1706
14	Shuffle	1705
15	Next	1704
16	Previous	1703

Specification

General

Power consumption	: 12W (4W in stand by)
Mains	: 220V / 50Hz for /00
	: 240V / 50Hz for /05, /10
	: 120V / 60Hz for /17
	: Voltage selector for /01, /13

Laser

Output power	: 3mW max.
Wave length	: 780nm

CD Part

Frequency response	: 20 – 20.000Hz (+2/–4dB)
Line output level	: 1,7V 2dB
Headphone	: 2x20mW / 32Ω
Signal to noise ratio	: 80dB
Distortion	: ≤0,1% at 1kHz
Channe difference	: ≤2dB at 1kHz
Channel crosstalk	: ≤50dB at 1kHz
De emphasis	: 0 or 15/50 µs switched automatically by subcode on the disc

(GB) WARNING
All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools at this potential.

(F) ATTENTION
Tous les IC et beaucoup d´autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévite pourrait être considérablement écourtée par le fait qu´aucune précaution nést prise à leur manipulation.
Lors de réparations, s´assurer de bien être relié au même potentiel que la masse de l´appareil et enfileer le bracelet serti d´une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l´on utilise soient également à ce potentiel.

ESD

(D) WARNUNG
Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie dafür, daß sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(NL) WAARSCHUWING
Alle IC´s en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

(I) AVVERTIMENTO
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden.

(I)
Le norme di sicurezza estigono che l´apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

(F)
Les normes de sécurité exigent que l´appareil soit remis à l´état d´origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(GB) Service Testprogramme

To get into service mode hold the keys "SELECT+" and "SELECT-" depressed during switching power on.(µP reset)

The programme goes back to Service pos."1" by pressing "STOP" in any Service position.

Pressing "SELECT-" the tray moves outside. Pressing "SELECT+" the tray moves inside.

Service pos. "1"
Test of radial servo
The arm is moved towards inner position and on the display the vertical segments are activated (see fig.1). Pressing the key "PREV" the arm is moved outside and on the display the horizontal segments are activated (see fig.2).

Service pos. "2"
Test of focus servo and disc motor.
The service pos. "2" is activated by pressing "PLAY". The display shows "00 00:00". The laser is switched on and the lens makes an up and down movement according to the applied triangle voltage for focus-search. Pressing "PREV" the turntable motor turns counter clockwise. Pressing "NEXT" the motor turns clockwise. If a disc has been inserted and a focus can be found the display shows "11 11:11".

Service pos. "3"
The service pos. "3" is activated by pressing "PLAY". The radial control is switched on and if the radial control works correctly, the arm follows the track. The display shows "22 22:22". Pressing "PREV" the arm makes leaps backwards. Pressing "NEXT" the µP reads the subcode. If the subcode reading works, the arm makes leaps forward as long as pressing the "NEXT" key.

To leave the service testprogramme switch off the set.

(F) Programme de test de service

Pour parvenir en mode de service, maintenez enfoncées les touches "SELECT+" et "SELECT-" tandis que vous mettez l'appareil en circuit (microprocesseur remis à zéro).

Le programme revient en Position de Service "1" si vous appuyez sur "STOP" à partir de n'importe quelle position de service.

Si vous appuyez sur "SELECT-", le plateau se déplace vers l'extérieur. Par pression sur la touche "PRESET+", il se déplace vers l'intérieur.

Position de Service "1"
Test du servomécanisme radial
Le bras est déplacé vers la position intérieure et des segments verticaux sont activés sur l'afficheur (fig.1). En appuyant sur la touche "PREV" le bras est déplacé vers l'extérieur et des segments horizontaux sont activés sur l'afficheur (fig.2).

Position de Service "2"
Test du servomécanisme de mise au point et du moteur du plateau
La position de service "2" est activée après pression sur la touche "PLAY". L'afficheur indique "00 00:00". Le laser est mis en circuit et la lentille effectue un mouvement de haut en bas conformément à la tension triangulaire appliquée pour la recherche de mise au point. Si vous appuyez sur "PREV", le moteur du plateau rotatif tourne dans le sens inverse d'horloge. Si vous appuyez sur "NEXT" il tourne dans le sens d'horloge. Si un disque a été introduit et la mise au point trouvée, l'afficheur indiquera "11 11:11".

Position de Service "3"
La position de service "3" est activée par pression sur la touche "PLAY". La commande radiale est mise en circuit et si elle fonctionne correctement, le bras suit la piste. L'afficheur indique "22 22:22". Si vous appuyez sur "PREV", le bras fait des sauts en arrière. Si vous appuyez sur "NEXT", le microprocesseur lit le sous-code. Si la lecture du sous-code fonctionne bien, le bras fait des sauts en avant tant que vous maintenez enfoncée la touche "NEXT".

Pour quitter le programme de test de service, mettez l'unité hors circuit.

FIG 1

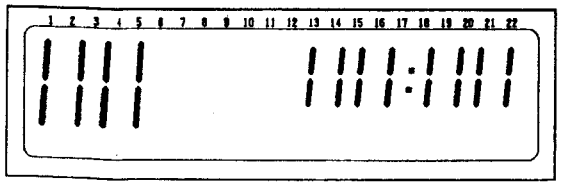
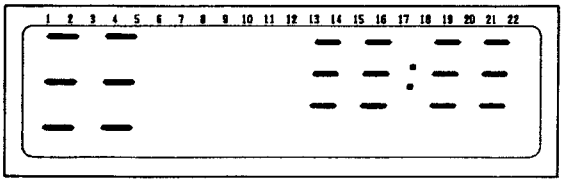
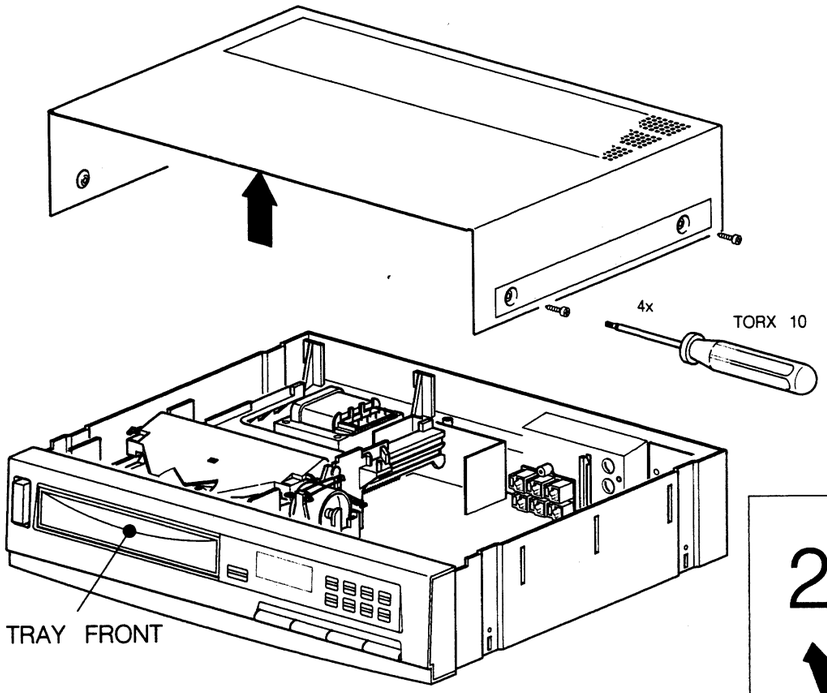


FIG 2



1



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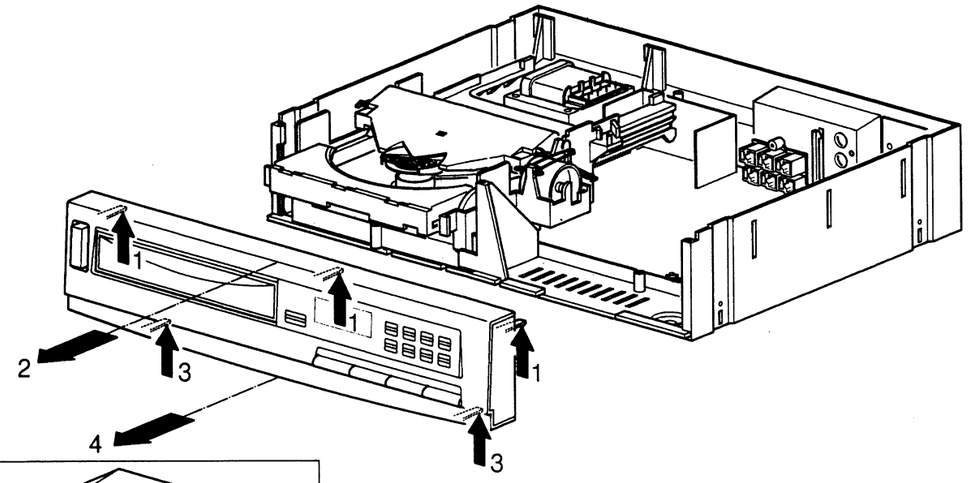

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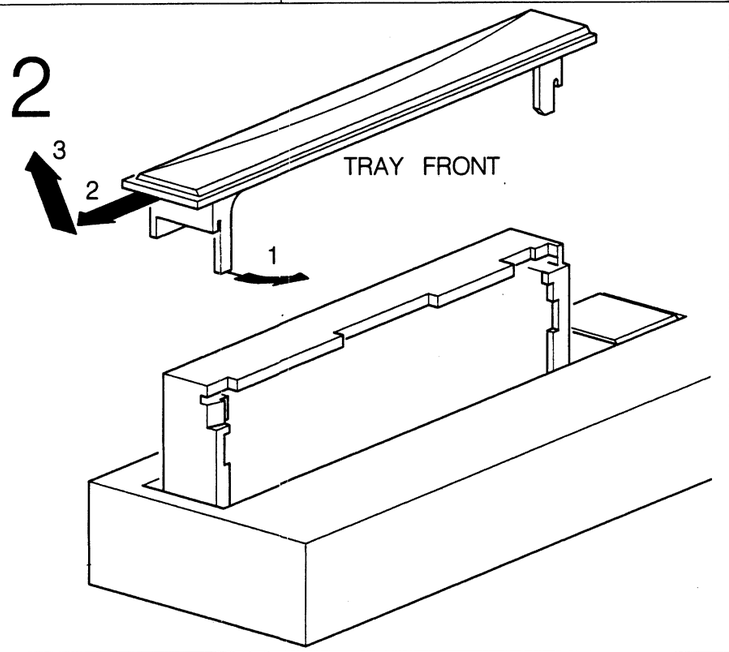

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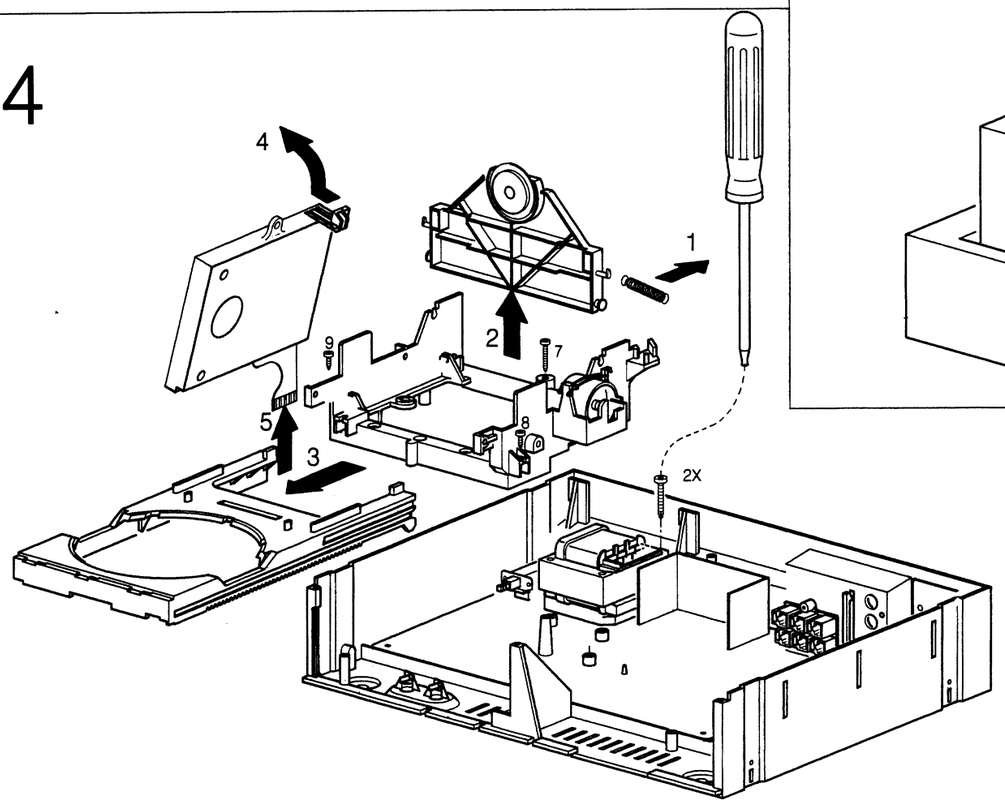

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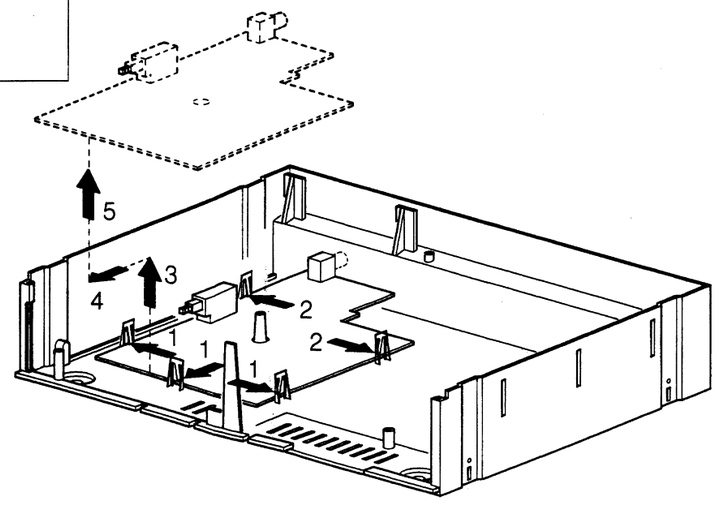
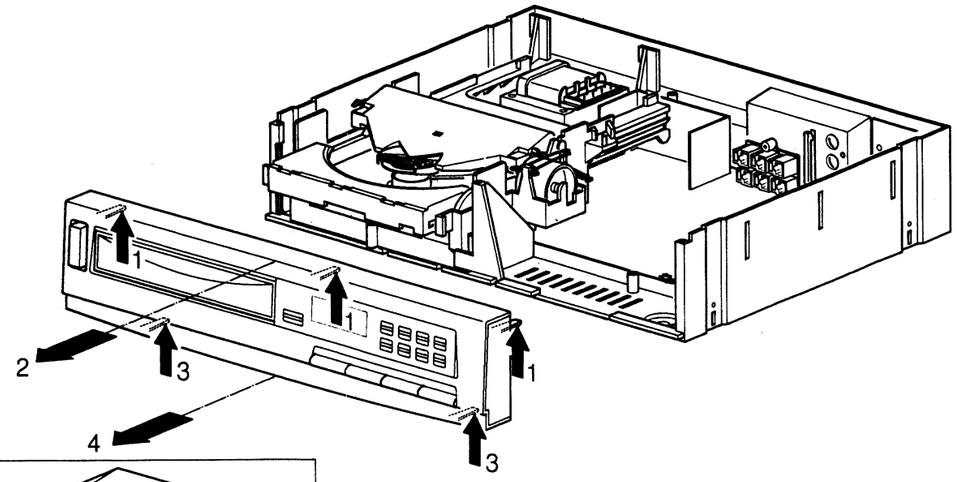
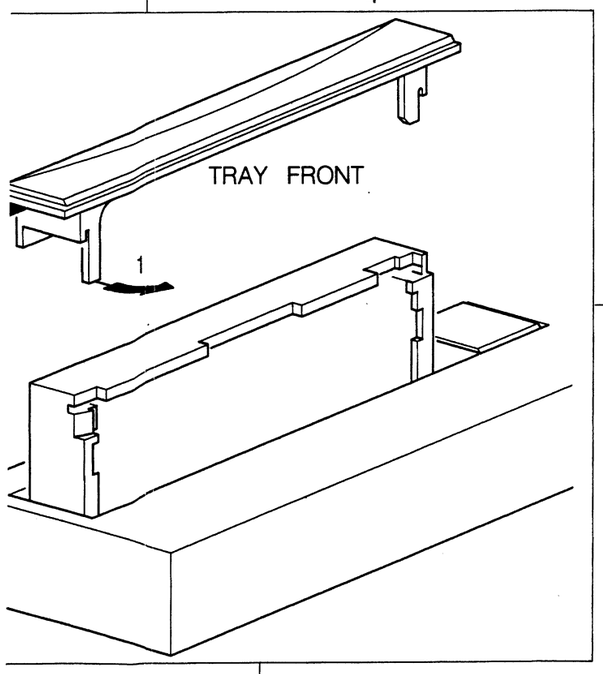


3





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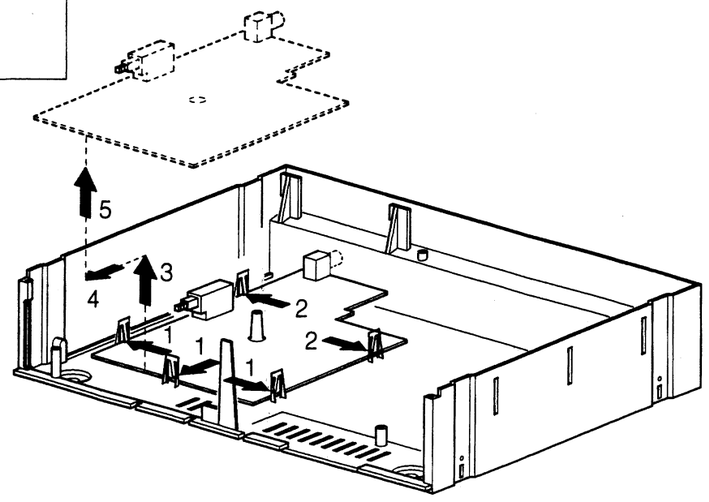
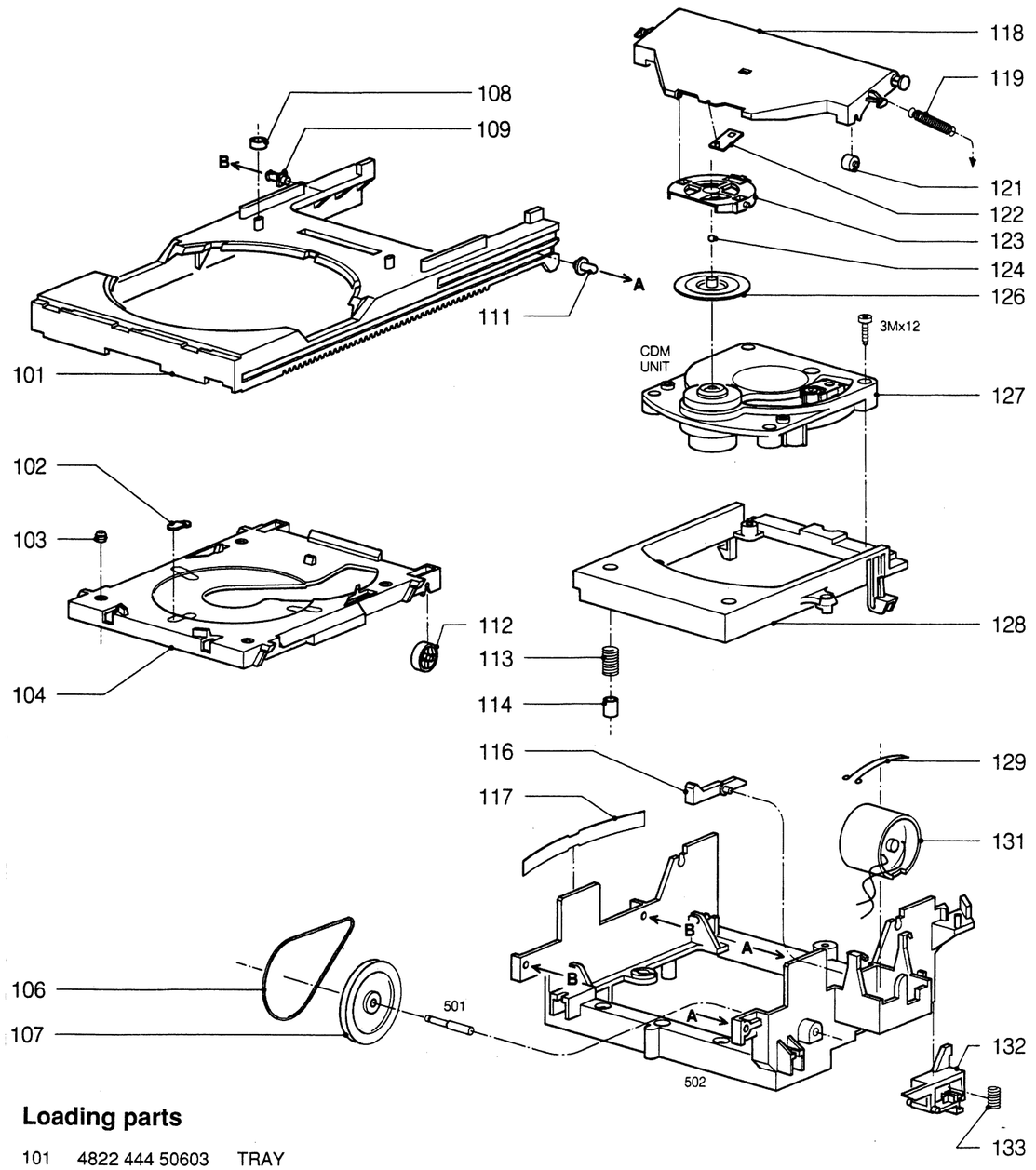


LOADING



Loading parts

101	4822 444 50603	TRAY
102	4822 402 61398	SUPPORT
103	4822 325 50177	TULE
104	4822 466 92251	LIFT PLATE ASSY
106	4822 358 10115	BELT
107	4822 522 32359	GEARWHEEL
108	4822 532 51756	GROMMET
109	4822 402 61081	GUIDE
111	4822 402 61132	GUIDE
112	4822 528 90638	ROLLER
113	4822 492 51902	COMPRESSION SPRING
114	4822 532 61168	SUSPENSION GROMMET
116	4822 402 61107	LEVER
117	4822 492 63659	FLAT SPRING
118	4822 444 60568	LID
119	4822 492 32883	SPRING
121	4822 528 90639	ROLLER
122	4822 466 92257	PIVOT PLATE
123	4822 402 61207	CENTRING RING
124	4822 520 40177	BALL
126	4822 530 80503	MAGNET ASSY
127	4822 691 30209	CDM UNIT
128	4822 402 61196	SUPPORT
129	4822 492 63746	SPRING
131	4822 361 21327	TRAY MOTOR
132	4822 402 50281	SWITCH BRACKET
133	4822 492 51935	SPRING
502	4822 464 50822	CHASSIS
	4822 528 81447	PULLEY FOR POS. 131

CD PART

MAINS
FOR /05 240V
FOR /10 220V
FOR /17 120V
6600 1N4002
6601 1N4002
6602 1N4002
6603 1N4002
7600 LM2940CT
6843 1N4148
2602 4N7
2600 3300MU
2601 220MU
2831 47N
2844 100MU
3849 150
3848 4R7

FOR VERSION /01 ONLY:
FOR VERSION /13 ONLY:
VOLT. SEL.
240V 220V 120V 0V
RADIAL AMPLIFIER

7830 TDA8809T TOP VIEW
RADIAL ERROR SIGNAL PROCESSOR
3 1/2 BIT DAC
FUNCTION DECODER
LAG S/C
RADIAL
LAG S/C
RE DIG
DIV4
VEXT-
VEXT+5.8V
GND
VDD

1/2 7831 L272MH
RADIAL MOTOR
RAD-
RAD+

FOCUS AMPLIFIER 1/2 7832 L272MH
FOCUS ACTUATOR
FO+
FO-
FOCUS OFFSET
TO 1801/3
TO 1801/4

FOCUS NORMALIZING CIRCUIT
STARTING CIRCUIT
SUPPLY CONTROL
GAIN CONTROL
HF AMPL SLICERS
PINS SI/RD SC
REFS

7801 BC337/40
LASER
MONITOR
TO 1801/5 LASER CURRENT
TO 1801/6
1810 DIODE ARRAY
COM-MINI
LASER CURRENT
HF LASER
TO 1801/1
TO 1801/2

HF AMP
EQUALIZER
HF OUTPUT AMP
PHOTO DIODE SIGNAL PROCESSOR
7810 TDA8808T TOP VIEW
LPF PIN14
PIN 21
WOBBLE OSCILLATOR
HF
HF OUT

1801 MEASURING CONNECTOR

7841 PC74HC02P

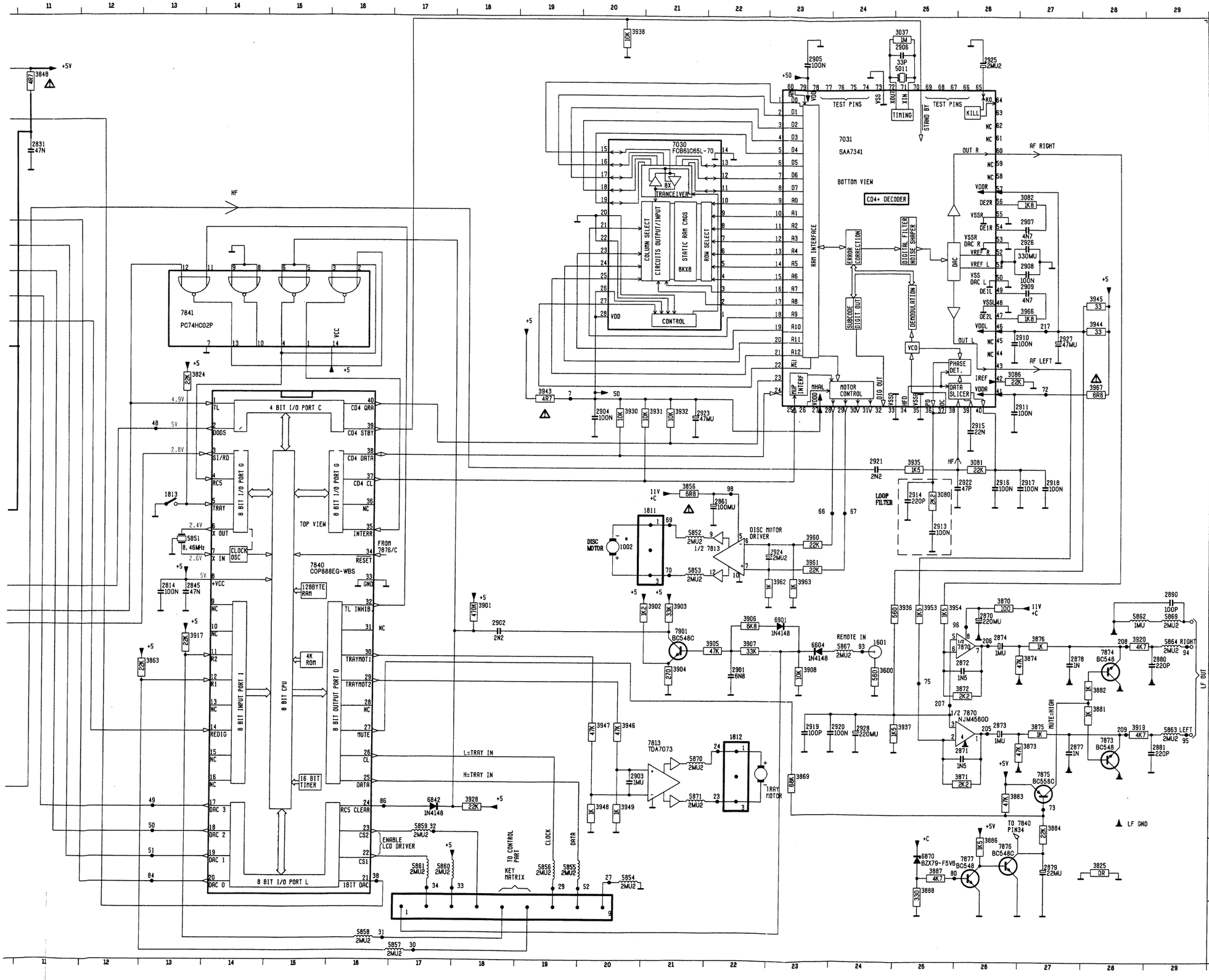
7840 COP888EG-WBS
4 BIT I/O PORT C
8 BIT I/O PORT G
8 BIT I/O PORT L
8 BIT INPUT PORT I
8 BIT OUTPUT PORT D
8 BIT CPU
128BYTE RAM
4K ROM
16 BIT TIMER
TOP VIEW
TO CONTROL PART
KEY MATRIX
CLOCK
DATA
ENABLE LCD DRIVER
L=TRAY IN
H=TRAY IN
FROM 7876/C

7030 FCB61C65L-70
TRANCEIVER
COLUMN SELECT CIRCUITS OUTPUT/INPUT
STATIC RAM CMOS 8KX8
ROW SELECT
CONTROL
RAM INTERFACE
TEST PIN

DISC MOTOR
DISC MOTOR DRIVER 1/2 7813
7813 TDA7073
TRAY MOTOR

REMOTE

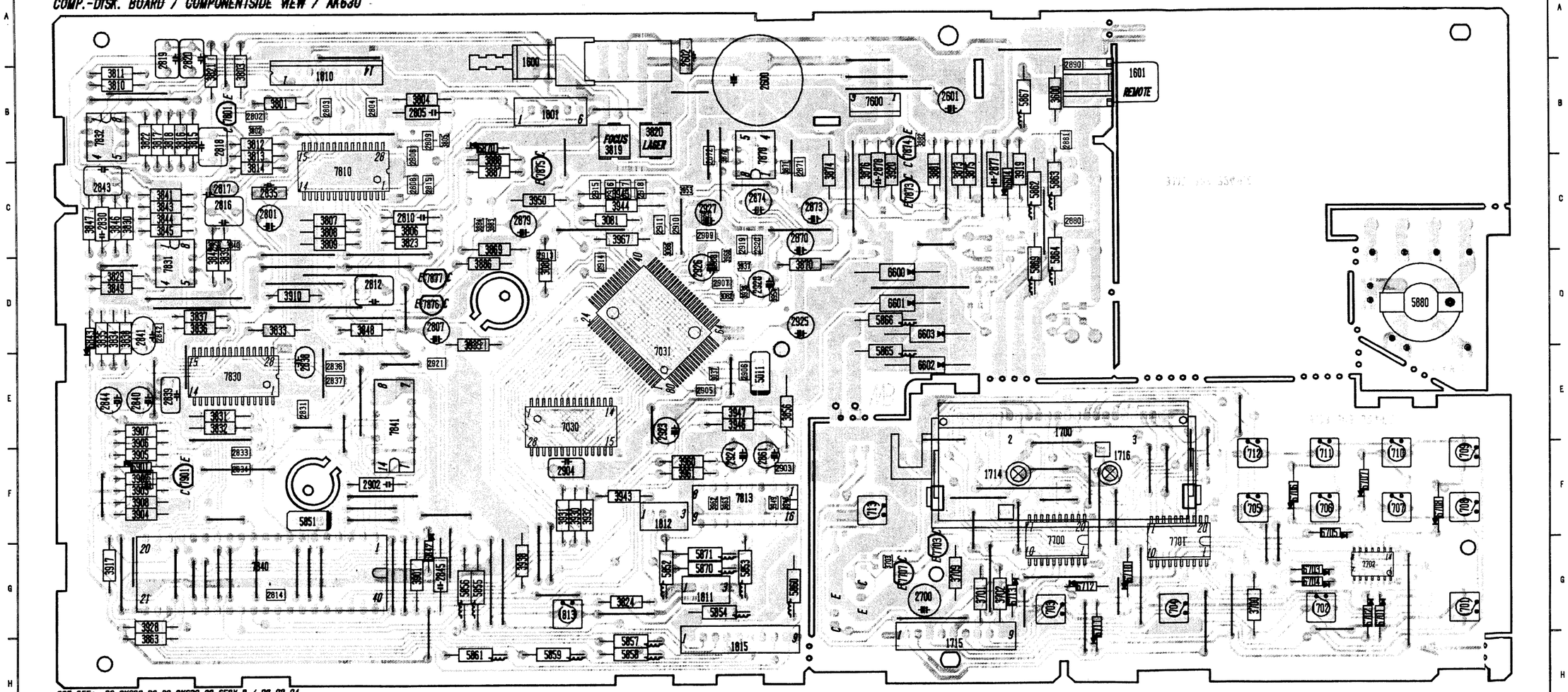
(AD-REF: ES.AK630.P8.AK630.00.SH1.D02 (92-01-30)



	■1	F 1	3830	D 3	7877	N26
	■1	H 1	3831	F10	7901	J21
	■1001	A 1	3832	F10		
A	■1001	B 1	3833	E 7		
	■1610	C 2	3834	D 6		
	■1610	C 4	3835	D 6		
	■5001	A 2	3836	C 6		
	1002	I20	3837	C 6		
	1600	A 5	3838	C 6		
	1601	J24	3839	D 5		
	1801	O 3	3840	C 5		
B	1810	K 1	3841	E 4		
	1811	H21	3842	D 4		
	1812	L22	3843	E 4		
	1813	H13	3844	E 3		
	2600	B 5	3845	E 1		
	2601	B 7	3846	D 2		
	2602	B 5	3847	D 3		
	2801	J 5	3848	A11		
	2802	J 3	3849	B10		
C	2803	J 5	3850	D 3		
	2804	M 4	3856	H21		
	2805	N 3	3863	K12		
	2806	N 5	3869	M23		
	2807	I 8	3870	J26		
	2808	N 8	3871	M26		
	2809	M 8	3872	K26		
	2810	M 8	3873	L26		
D	2812	L 8	3874	K26		
	2814	J13	3875	L27		
	2815	I 8	3876	J27		
	2816	H 5	3881	K28		
	2817	G 5	3882	K28		
	2818	G 4	3883	M26		
	2819	I 2	3884	M27		
	2820	I 3	3886	N26		
E	2830	E 3	3887	N25		
	2831	C11	3888	N25		
	2833	G10	3901	J18		
	2834	G10	3902	J20		
	2835	G 6	3903	J21		
	2836	G 7	3904	K21		
	2837	F 7	3905	J22		
	2838	F 7	3906	J22		
F	2839	E 7	3907	J22		
	2840	E 6	3908	K23		
	2841	D 6	3910	J 4		
	2842	C 5	3917	J13		
	2843	D 3	3919	L28		
	2844	C10	3920	J28		
	2845	J13	3928	M18		
	2861	H22	3930	G20		
G	2870	J26	3931	G20		
	2871	L26	3932	G21		
	2872	K26	3935	H25		
	2873	L26	3936	J24		
	2874	J26	3937	L24		
	2877	L27	3938	A20		
	2878	K27	3943	F19		
	2879	N27	3944	E28		
	2880	K29	3945	E28		
H	2881	L29	3946	L20		
	2890	J29	3947	L20		
	2901	K22	3948	M20		
	2902	J18	3949	M20		
	2903	M20	3953	J25		
	2904	G20	3954	J25		
	2905	A23	3960	I23		
	2906	A25	3961	I23		
I	2907	D27	3962	I22		
	2908	D27	3963	I23		
	2909	E27	3966	E27		
	2910	F26	3967	F28		
	2911	G26	5011	R24		
	2913	I25	5851	I13		
	2914	H25	5852	I21		
	2915	G26	5853	I21		
J	2916	H26	5854	N20		
	2917	H26	5855	N20		
	2918	H27	5856	N19		
	2919	L23	5857	O17		
	2920	L23	5858	O16		
	2921	H24	5859	N17		
	2922	H25	5860	N18		
	2923	Q21	5861	N17		
K	2924	I22	5862	J28		
	2925	A26	5863	L29		
	2926	D27	5864	J29		
	2927	F27	5865	B 3		
	2928	L24	5866	A 3		
	3037	A25	5867	J24		
	3080	H25	5869	J29		
	3081	H26	5870	L21		
L	3082	C27	5871	M21		
	3086	F26	5880	C 3		
	3600	K24	5880	B 1		
	3801	J 2	5880	C 1		
	3802	I 4	6600	A 4		
	3803	K 3	6601	A 4		
	3804	M 4	6602	A 4		
	3805	N 4	6603	A 4		
M	3806	M 9	6604	J23		
	3807	K 8	6842	M17		
	3808	K 8	6843	B10		
	3809	K 8	6870	N25		
	3810	H 3	6901	J23		
	3811	H 2	7030	C21		
	3812	G 5	7031	B23		
	3813	G 5	7600	A 6		
	3814	H 5	7801	I 3		
N	3815	G 3	7810	M 6		
	3816	G 3	7813	L20		
	3817	G 2	7830	D 8		
	3818	G 2	7831	D 1		
	3819	F 5	7832	F 2		
	3820	K 3	7840	I15		
	3821	F 5	7841	E13		
	3822	F 4	7870	L26		
O	3823	M 9	7873	L28		
	3824	F13	7874	K28		
	3825	N28	7875	L27		
	3829	E 2	7876	N26		

1600	A 6	1706	F14	1715	H10	2600	B 8	2816	C 3	2840	E 2	2877	C11	2927	C 8	3709	G10	3811	B 2	3820	B 7	3833	D 3	3843	C 2	3869	C 6	3888	B 6	3910	D 3	3938	G 6	3967	C 7	5858	H 7	5867	B11	6604	C11	6710	G12	7703	G10	7873	C10
1601	B12	1707	F15	1716	F12	2601	B10	2817	C 3	2841	D 2	2878	C10	2928	D 8	3801	B 3	3812	B 3	3821	B 3	3834	D 2	3844	C 2	3870	D 9	3901	G 5	3917	G 1	3943	F 7	5011	E 8	5859	H 6	5869	D11	6701	G15	6711	G12	7707	G10	7874	B10
		1708	F16	1801	B 6	2602	A 8	2818	B 3	2843	C 1	2879	C 6	3	E12	3803	B 3	3813	B 3	3822	B 2	3835	D 1	3845	C 2	3873	C10	3902	F 2	3919	C11	3944	C 7	5851	F 4	5860	G 9	5870	G 8	6702	G15	6712	G12	7801	B 3	7875	C 6
1700	E11	1709	F16	1810	B 4	2700	G10	2819	A 2	2844	E 1	2902	F 4	3080	D 6	3804	B 5	3814	C 3	3823	C 5	3836	D 2	3846	C 2	3874	C 9	3903	F 2	3920	C10	3945	C 7	5852	G 7	5861	H 5	5871	G 8	6703	G14	6713	G11	7813	F 8	7876	D 5
1701	G16	1710	F15	1811	G 8	2801	C 3	2820	A 2	2845	G 5	2904	F 6	3081	C 7	3805	C 5	3815	B 2	3824	G 7	3837	D 2	3847	C 1	3875	C10	3904	F 2	3928	G 2	3946	E 8	5853	G 8	5862	C11	5880	D15	6704	G14	6842	G 5	7831	D 2	7877	D 5
1702	G14	1711	F14	1812	F 7	2805	B 5	2830	C 1	2861	F 8	2923	E 7	3600	B11	3807	C 4	3816	B 2	3829	D 2	3838	D 2	3848	D 4	3876	C 9	3905	F 2	3930	F 6	3947	E 8	5854	G 8	5863	C11	6600	D10	6705	F14	6843	D 1	7832	B 1	7901	F 2
1703	G11	1712	F13	1813	G 6	2807	D 5	2835	C 3	2870	C 9	2924	F 8	3700	G13	3808	C 4	3817	B 2	3830	C 2	3839	C 3	3849	D 2	3881	C10	3906	E 2	3931	F 6	3950	C 6	5855	G 5	5864	D11	6601	D10	6706	F14	6870	B 5	7840	G 3		
1704	G13	1713	F 9	1815	H 8	2810	C 5	2838	E 4	2873	C 9	2925	D 9	3701	G11	3809	C 4	3818	B 2	3831	E 3	3841	C 2	3856	E 9	3886	D 5	3907	E 2	3932	F 6	3960	F 8	5856	G 5	5865	E10	6602	E10	6707	F15	6901	F 2	7841	E 4		
1705	F13	1714	F11	2	E11	2812	D 4	2839	E 2	2874	C 8	2926	D 8	3702	G11	3810	B 2	3819	B 7	3832	E 3	3842	C 3	3863	H 2	3887	C 6	3908	F 2	3935	D 5	3961	F 8	5857	H 7	5866	D10	6603	D10	6708	F15	7600	B 9	7870	B 8		

COMP.-DISK. BOARD / COMPONENTSIDE VIEW / AK630

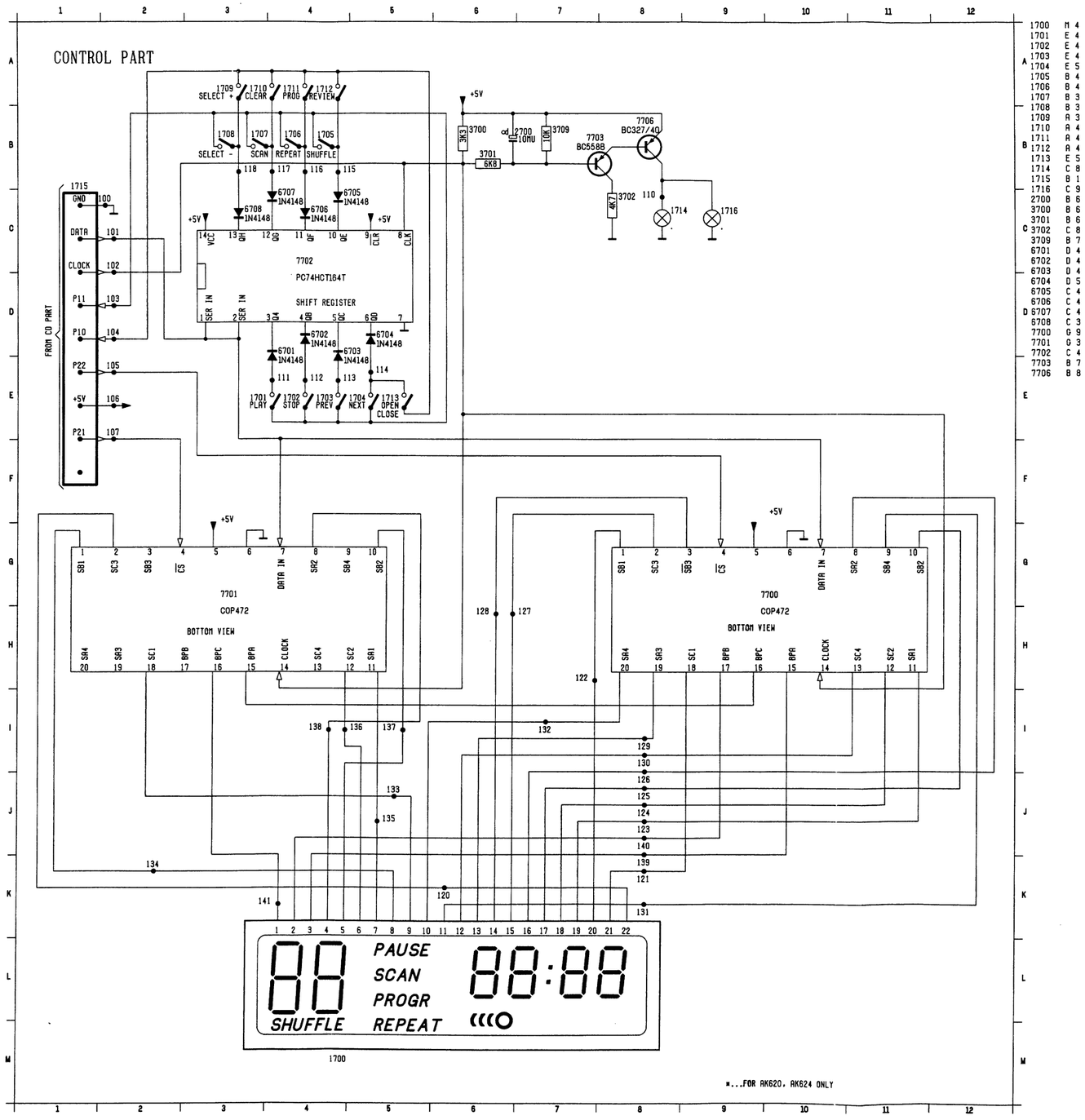


2802	B 3	2806	B 5	2814	G 3	2833	F 3	2837	E 4	2872	B 8	2890	B12	2905	E 8	2908	D 8	2911	C 7	2915	C 7	2918	C 7	2921	E 5	3082	D 8	3802	B 3	3840	C 3	3872	B 8	3884	C 5	3948	F 9	3954	D 8	3966	D 8	7700	G11	7810	C 4		
2803	B 4	2808	C 5	2815	C 5	2834	F 3	2842	D 2	2880	C12	2901	F 2	2906	E 8	2909	C 8	2913	C 6	2916	C 7	2919	C 8	2922	D 5	3086	C 7	3805	B 5	3850	C 3	3882	B10	3936	D 8	3949	F 8	3962	F 8	7030	E 6	7701	G13	7830	E 3		
2804	B 4	2809	B 5	2831	E 4	2836	E 4	2871	C 9	2881	B11	2903	F 9	2907	D 8	2910	C 7	2914	D 7	2917	C 7	2920	C 8	3037	E 8	3703	G10	3825	C 8	3871	C 9	3883	C 5	3937	D 8	3953	C 8	3963	F 8	7031	E 7	7702	G15				

Adjustment table

	Measuring point	Adjust with	Value
Laser	Connector 1801 Pin 1 & 2	Trimmpot 3820	50mV ±2,5mV
Focus offset	Connector 1801 Pin 3 & 4	Trimmpot 3819	400mV ± 40mV

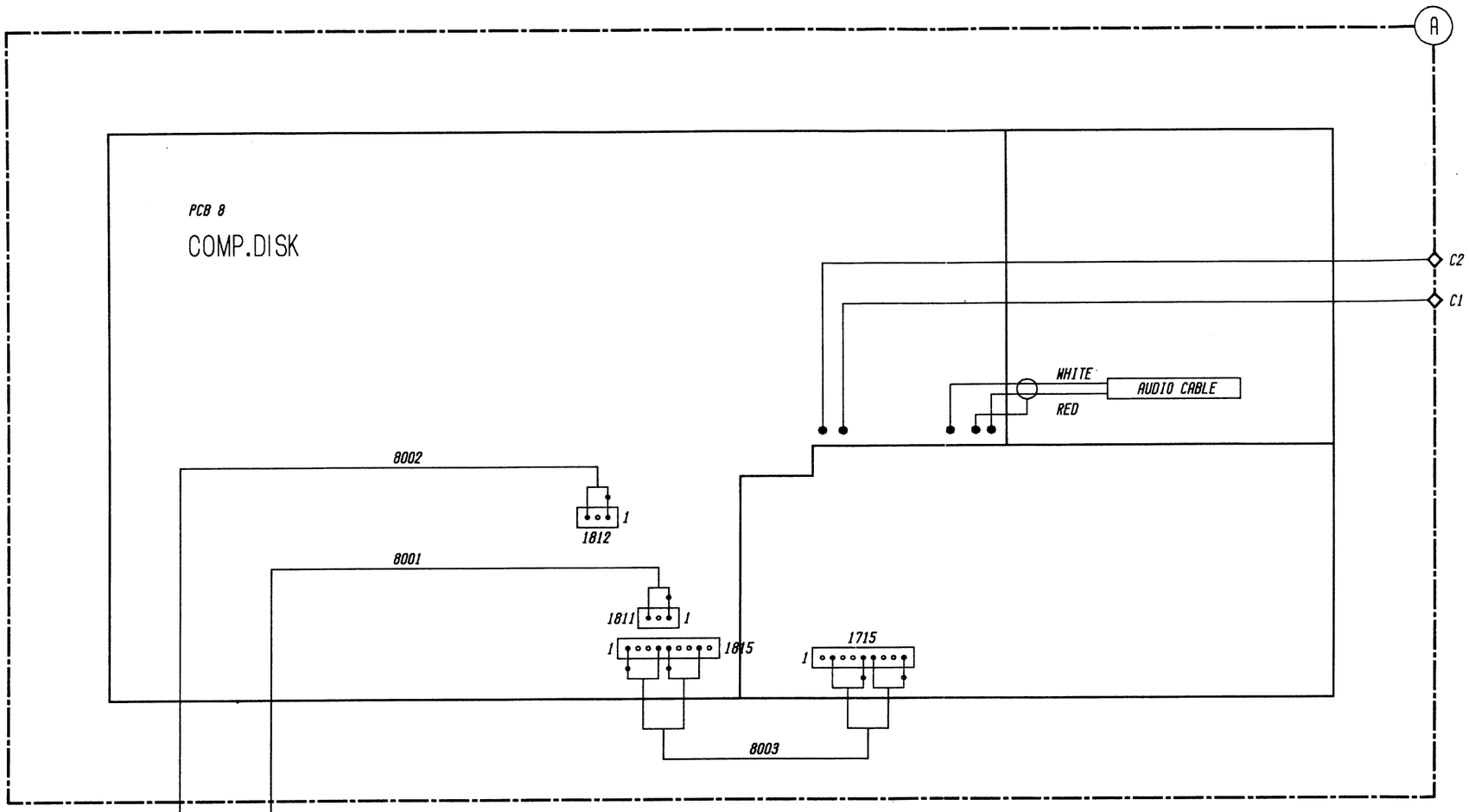
Use a Millivoltmeter with a high input impedance (≥10MΩ)

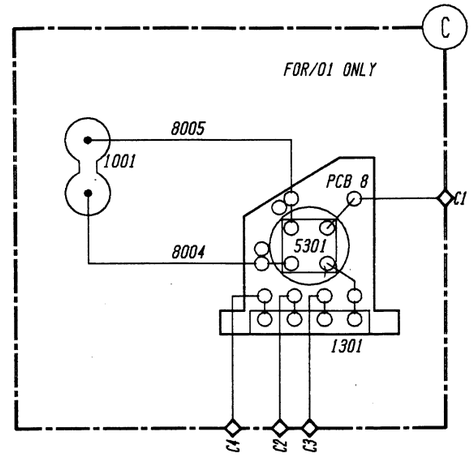


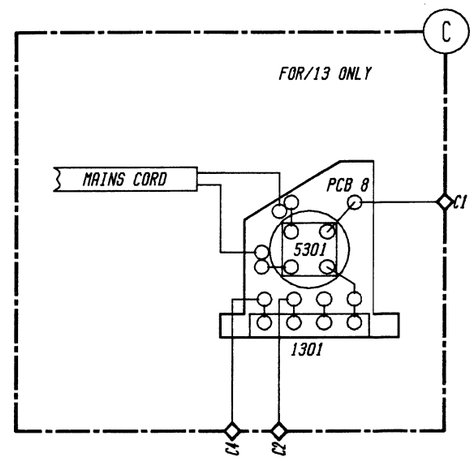
1700 M 4
1701 E 4
1702 E 4
1703 E 4
1704 E 5
1705 B 4
1706 B 4
1707 B 3
1708 B 3
1709 A 3
1710 A 4
1711 A 4
1712 A 4
1713 E 5
1714 C 8
1715 B 1
1716 C 9
2700 B 6
3700 B 6
3701 B 6
3702 C 8
3709 B 7
6701 D 4
6702 D 4
6703 D 4
6704 D 5
6705 C 4
6706 C 4
6707 C 4
6708 C 3
7700 G 9
7701 G 3
7702 C 4
7703 B 7
7706 B 8

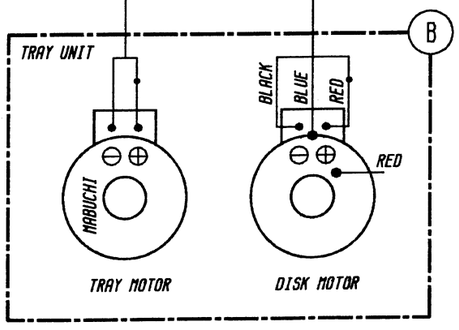
CAD-REF: ES.AK601.P8.AK601.00.SH1.D04 (91-05-22)

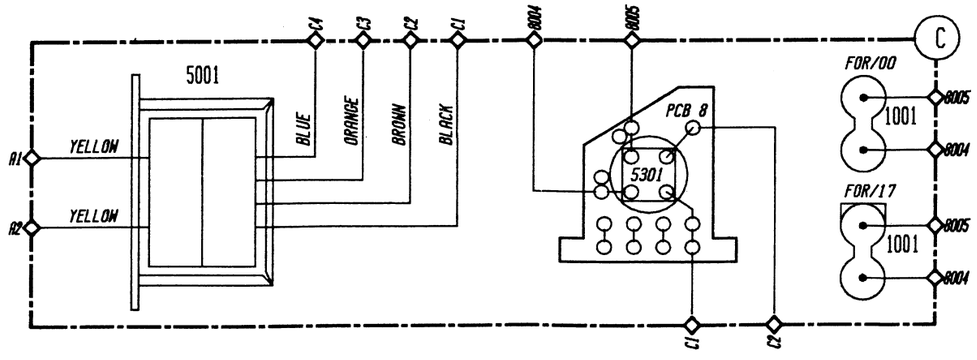
WIRING DIAGRAM











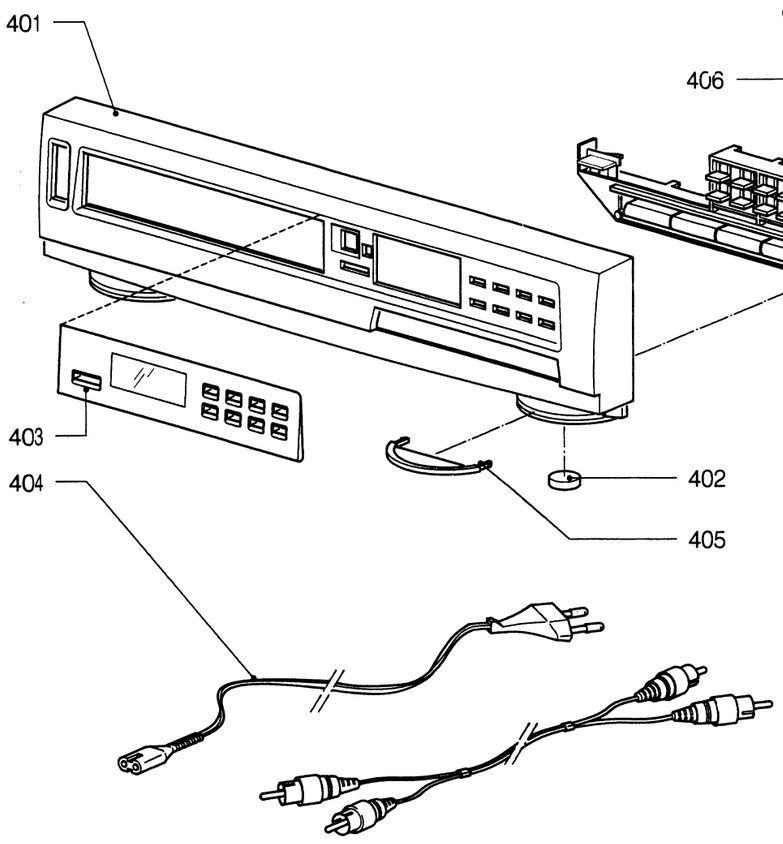
FOR VERSION /17:
CONNECT C4 INSTEAD OF C2 TO PCB 8

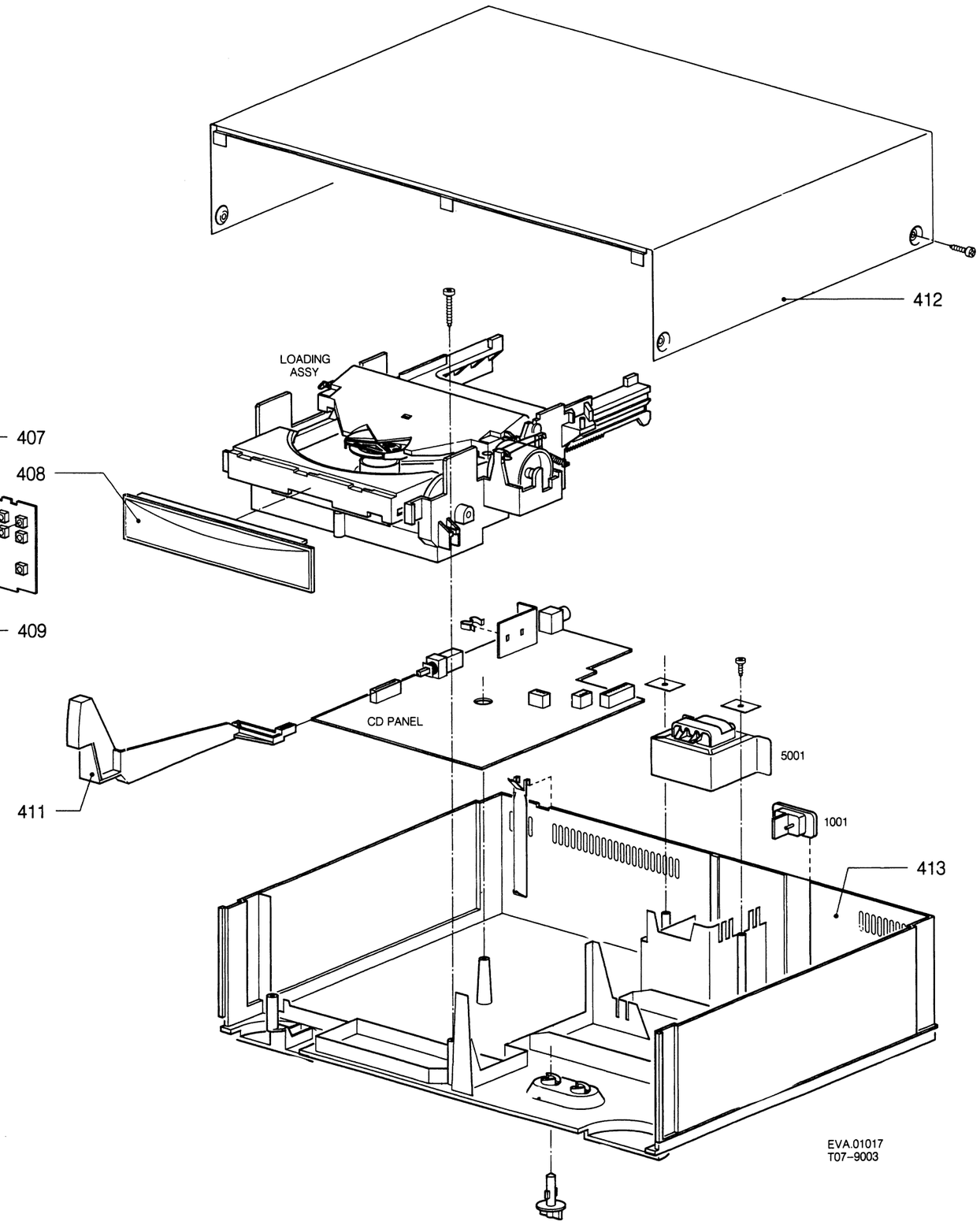
FOR VERSION 05:
CONNECT C3 INSTEAD OF C2 TO PCB 8

FREE ENDS OF TRAFO INSULATED ACC.IEC65(BARE END OF WIRE MINIMUM COVERED 2MM) AND POSITIONED IN INSULATION-TUNNEL OF CABINET.

MECHANICAL PARTS

401	4822 444 40534	FRONT "PHILIPS"
401	4822 444 40535	FRONT "MAGNAVOX"
402	4822 462 40683	FOOT RUBBER
403	4822 450 61865	WINDOW PRINTED
404	4822 321 10251	MAINS CORD GB
404	4822 321 10249	MAINS CORD EUROPE
404	4822 321 10524	MAINS CORD AUSTRALIA
404	4822 321 10259	MAINS CORD USA
405	4822 444 60822	CAP
408	4822 454 30437	TRAY FRONT PRINTED
409	4822 402 61367	KEY SET LAQUERED
411	4822 410 60973	POWER KEY LAQUERED
412	4822 444 60821	COVER PRINTED
	4822 256 91292	HOLDER VOLT. SELECT.
	4822 535 80855	TRANSPORT LOCKING
	4822 255 41091	DISPLAY HOLDER
	4822 466 70673	LIGHT DIFFUSOR





ELECTRICAL PARTSLIST

MISCELLANEOUS

1001	4822 267 30911	MAINS SOCKET
1001	4822 267 31045	MAINS SOCKET FOR /17
1600	4822 276 12349	SWITCH POWER
1601	4822 267 31016	CHINCH SOCKET
1700	4822 130 90826	DISPLAY
1701	4822 276 13066	TACT SWITCH
1702	4822 276 13066	TACT SWITCH
1703	4822 276 13066	TACT SWITCH
1704	4822 276 13066	TACT SWITCH
1705	4822 276 13066	TACT SWITCH
1706	4822 276 13066	TACT SWITCH
1707	4822 276 13066	TACT SWITCH
1708	4822 276 13066	TACT SWITCH
1709	4822 276 13066	TACT SWITCH
1710	4822 276 13066	TACT SWITCH
1711	4822 276 13066	TACT SWITCH
1712	4822 276 13066	TACT SWITCH
1713	4822 276 13066	TACT SWITCH
1714	4822 134 41101	LAMP 5V 115mA
1716	4822 134 41101	LAMP 5V 115mA
1813	4822 276 13066	TACT SWITCH
2802	4822 276 13066	TACT SWITCH
1004	4822 214 51803	VOLTAGE SELECTOR
5001	4822 146 21079	MAINS TRANSFORMER
5001	4822 146 30698	MAINS TRANSFORMER FOR /17

DIODES

6600	5322 130 30684	1N4002
6601	5322 130 30684	1N4002
6602	5322 130 30684	1N4002
6603	5322 130 30684	1N4002
6604	4822 130 30621	1N4148
6701	4822 130 30621	1N4148
6702	4822 130 30621	1N4148
6703	4822 130 30621	1N4148
6704	4822 130 30621	1N4148
6705	4822 130 30621	1N4148
6706	4822 130 30621	1N4148
6707	4822 130 30621	1N4148
6708	4822 130 30621	1N4148
6842	4822 130 30621	1N4148
6843	4822 130 30621	1N4148
6870	4822 130 34173	BZX79-C5V6
6901	4822 130 30621	1N4148

TRANSISTORS

7703	4822 130 44197	BC558B
7707	4822 130 41327	BC327-40
7801	4822 130 41344	BC337-40
7873	4822 130 40938	BC548
7874	4822 130 40938	BC548
7875	5322 130 60068	BC558C
7876	4822 130 44196	BC548C
7877	4822 130 40938	BC548
7901	4822 130 44196	BC548C

INTEGRATED CIRCUITS

7030	4822 209 63925	FCB61C65L-70T
7031	4822 209 30388	SAA7341GP

INTEGRATED CIRCUITS

7600	5322 209 72487	LM2940CT-5.0
7700	4822 209 62111	COP472-3
7701	4822 209 62111	COP472-3
7702	4822 209 62113	PC74HCT164T
7810	4822 209 73234	TDA8808T/C3
7813	4822 209 31189	TDA7073A
7830	4822 209 73235	TDA8809T/C2
7831	4822 209 30146	L2722
7832	4822 209 30146	L2722
7840	4822 209 31307	COP888EG-WBS
7841	5322 209 11331	PC74HC02P
7870	4822 209 83274	NJM4560D

COILS

5011	4822 242 80997	RESONATOR
5851	4822 242 73557	CERAMIC RES. 8,46MHz
5852	4822 157 60146	COIL 2,2µH
5853	4822 157 60146	COIL 2,2µH
5854	4822 157 60146	COIL 2,2µH
5855	4822 157 60146	COIL 2,2µH
5856	4822 157 60146	COIL 2,2µH
5857	4822 157 60146	COIL 2,2µH
5858	4822 157 60146	COIL 2,2µH
5859	4822 157 60146	COIL 2,2µH
5860	4822 157 60146	COIL 2,2µH
5861	4822 157 60146	COIL 2,2µH
5862	4822 157 53302	1µH
5863	4822 157 60146	COIL 2,2µH
5864	4822 157 60146	COIL 2,2µH
5865	4822 157 60147	COIL 2,2µH
5866	4822 157 60147	COIL 2,2µH
5867	4822 157 60146	COIL 2,2µH
5868	4822 157 60146	COIL 2,2µH
5869	4822 157 60146	COIL 2,2µH
5870	4822 157 60146	COIL 2,2µH
5871	4822 157 60146	COIL 2,2µH
5880	4822 157 63756	LINE CHOKE

RESISTORS

3080	4822 050 22202	2k2	1%	0,6W
3081	4822 050 22203	22k	1%	0,6W
3700	4822 050 23302	3k3	1%	0,6W
3701	4822 050 26802	6k8	1%	0,6W
3702	4822 050 24702	4k7	1%	0,6W
3703	4822 050 21502	1k5	1%	0,6W
3709	4822 050 21003	10k	2%	0,25W
3801	4822 116 80562	10R	5%	NFR
3803	4822 051 10101	100R	5%	0,25W
3804	4822 116 52234	100k	5%	0,5W
3806	4822 050 21002	1k	1%	0,6W
3807	4822 050 21203	12k	1%	0,6W
3808	4822 050 22403	24k	5%	0,125W
3809	4822 050 15602	5k6	1%	0,4W
3810	4822 116 52186	22R	5%	0,5W
3811	4822 116 52186	22R	5%	0,5W
3812	4822 050 22202	2k2	1%	0,6W
3813	4822 050 23003	30k	5%	0,125W
3814	4822 050 28203	82k	1%	0,6W
3815	4822 050 23003	30k	5%	0,125W
3816	4822 050 28203	82k	1%	0,6W

RESISTORS

3817	4822 050 21002	1k	1%	0,6W
3818	4822 050 21002	1k	1%	0,6W
3819	4822 100 11088	TRIMPOT 5k LIN		
3820	4822 100 11088	TRIMPOT 5k LIN		
3821	4822 050 22704	270k	1%	0,6W
3822	4822 050 21803	18k	1%	0,6W
3823	4822 116 52263	2k7	5%	0,5W
3824	4822 050 22203	22k	1%	0,6W
3829	4822 050 23901	390R	1%	0,6W
3830	4822 050 23901	390R	1%	0,6W
3831	4822 050 24703	47k	1%	0,6W
3832	4822 116 52244	15k	5%	0,5W
3833	4822 050 21203	12k	1%	0,6W
3834	4822 050 22204	220k	1%	0,6W
3835	4822 050 21101	110R	1%	0,6W
3836	4822 050 25102	5,1k	1%	0,6W
3837	4822 050 21803	18k	1%	0,6W
3838	4822 050 22204	220k	1%	0,6W
3839	4822 050 23902	3k9	1%	0,6W
3841	4822 050 25102	5,1k	1%	0,6W
3842	4822 116 52263	2k7	5%	0,5W
3843	4822 050 25102	5,1k	1%	0,6W
3844	4822 050 21002	1k	1%	0,6W
3845	4822 050 21002	1k	1%	0,6W
3846	4822 050 23308	3,3R	1%	0,6W
3847	4822 116 52191	33R	5%	0,5W
3848	4822 116 80311	4,7R	5%	NFR
3849	4822 050 21501	150R	1%	0,6W
3856	4822 052 11688	6R8		
3863	4822 050 22203	22k	1%	0,6W
3869	4822 050 26803	68k	1%	0,6W
3870	4822 051 10101	100R	5%	0,25W
3873	4822 050 24703	47k	1%	0,6W
3874	4822 050 24703	47k	1%	0,6W
3875	4822 050 21002	1k	1%	0,6W
3876	4822 050 21002	1k	1%	0,6W
3881	4822 050 21002	1k	1%	0,6W
3886	4822 050 21502	1k5	1%	0,6W
3887	4822 050 24702	4k7	1%	0,6W
3888	4822 050 23301	330R	2%	0,25W
3901	4822 050 24704	470k	1%	0,6W
3902	4822 051 10122	1k2	5%	0,25W
3903	4822 050 13303	33k	1%	0,4W
3904	4822 116 52217	270R	5%	0,5W
3905	4822 050 24703	47k	1%	0,6W
3906	4822 050 26802	6k8	1%	0,6W
3907	4822 050 13303	33k	1%	0,4W
3908	4822 050 21003	10k	2%	0,25W
3910	4822 050 22203	22k	1%	0,6W
3917	4822 050 22203	22k	1%	0,6W
3919	4822 050 24702	4k7	1%	0,6W
3920	4822 050 24702	4k7	1%	0,6W
3928	4822 050 22203	22k	1%	0,6W
3930	4822 050 21003	10k	2%	0,25W
3931	4822 050 21003	10k	2%	0,25W
3932	4822 050 21003	10k	2%	0,25W
3935	4822 050 21502	1k5	1%	0,6W
3938	4822 050 21003	10k	2%	0,25W
3943	4822 116 80311	4,7R	5%	NFR
3944	4822 116 52186	22R	5%	0,5W
3945	4822 116 52186	22R	5%	0,5W

RESISTORS

3946	4822 050 24703	47k	1%	0,6W
3947	4822 050 24703	47k	1%	0,6W
3950	4822 116 80311	4,7R	5%	NFR
3960	4822 050 22203	22k	1%	0,6W
3961	4822 050 22203	22k	1%	0,6W
3967	4822 050 24708	4R7	1%	0,6W

CHIP RESISTORS

3037	4822 051 20105	1M	5%	0,1W
3082	4822 051 20182	1k8	5%	0,1W
3086	4822 051 20223	22k	5%	0,1W
3600	4822 051 10561	560R	2%	0,25W
3802	4822 051 20101	100R	5%	0,1W
3805	4822 051 20472	4k7	5%	0,1W
3840	4822 051 20152	1k5	5%	0,1W
3850	4822 051 20471	470R	5%	0,1W
3871	4822 051 20222	2k2	5%	0,1W
3872	4822 051 20222	2k2	5%	0,1W
3882	4822 051 10102	1k	2%	0,25W
3883	4822 051 20473	47k	5%	0,1W
3884	4822 051 20223	22k	5%	0,1W
3936	4822 051 20561	560R	5%	0,1W
3937	4822 051 20152	1k5	5%	0,1W
3948	4822 051 10102	1k	2%	0,25W
3949	4822 051 10102	1k	2%	0,25W
3953	4822 051 20152	1k5	5%	0,1W
3954	4822 051 20152	1k5	5%	0,1W
3962	4822 051 10102	1k	2%	0,25W
3963	4822 051 10102	1k	2%	0,25W
3966	4822 051 20182	1k8	5%	0,1W

CAPACITORS

2600	4822 124 41994	3300µF	20%	16V
2601	4822 124 22263	220µF	20%	25V
2602	4822 121 43856	4,7nF	5%	250V
2700	4822 124 40196	220µF	20%	16V
2801	4822 124 41584	100µF	20%	10V
2805	4822 126 11316	47nF	50V	
2807	4822 124 40177	47µF	20%	10V
2810	4822 122 10158	1nF	10%	50V
2812	4822 121 42408	220nF	5%	63V
2816	5322 121 42498	680nF	5%	63V
2817	4822 121 41856	22nF	5%	250V
2818	5322 121 42498	680nF	5%	63V
2819	4822 121 41857	10nF	5%	250V
2820	4822 121 41857	10nF	5%	250V
2830	4822 122 10177	10nF	20%	25V
2835	4822 126 11183	1nF	20%	50V
2838	4822 121 42408	220nF	5%	63V
2839	4822 121 42408	220nF	5%	63V
2840	4822 124 41584	100µF	20%	10V
2841	5322 121 42661	330nF	5%	63V
2843	5322 121 42498	680nF	5%	63V
2844	4822 124 41584	100µF	20%	10V
2845	4822 126 11316	47nF	50V	
2861	4822 124 41643	100µF	20%	16V
2870	4822 124 40196	220µF	20%	16V
2873	4822 124 40242	1µF	20%	63V
2874	4822 124 40242	1µF	20%	63V
2877	4822 122 10158	1nF	10%	50V
2878	4822 122 10158	1nF	10%	50V

CAPACITORS

2879	5322 124 41431	22µF	20%	25V
2902	4822 122 10175	2,2nF	10%	50V
2904	5322 121 42386	100nF	5%	63V
2923	4822 124 40177	47µF	20%	10V
2924	4822 124 40244	2,2µF	20%	63V
2925	4822 124 40244	2,2µF	20%	63V
2926	4822 124 40849	330µF	20%	16V
2927	4822 124 40177	47µF	20%	10V
2928	4822 124 40196	220µF	20%	16V

CHIP CAPACITORS

2803	4822 122 33325	470nF	20%	50V
2804	4822 122 31727	470pF	5%	63V
2806	4822 122 32442	10nF	10%	50V
2808	4822 122 32542	47nF	10%	63V
2809	4822 122 32542	47nF	10%	63V
2814	4822 122 33496	100nF	10%	63V
2815	4822 122 31644	2,2nF	10%	63V
2831	4822 122 32542	47nF	10%	63V
2833	4822 122 32856	8,2nF	10%	63V
2834	4822 122 32856	8,2nF	10%	63V
2836	4822 122 31981	33nF	10%	50V
2837	4822 122 31981	33nF	10%	50V
2842	4822 122 32542	47nF	10%	63V
2871	4822 122 31781	1,5nF	10%	50V
2872	4822 122 31781	1,5nF	10%	50V
2880	4822 122 31965	220pF	5%	
2881	4822 122 31965	220pF	5%	
2901	4822 122 32597	6,8nF	10%	63V
2903	4822 126 11692	1µF	20%	16V
2905	4822 122 33496	100nF	10%	63V
2906	4822 126 10324	33pF	5%	
2907	4822 122 31784	4,7nF	10%	50V
2908	4822 122 33496	100nF	10%	63V
2909	4822 122 31784	4,7nF	10%	50V
2910	4822 122 33496	100nF	10%	63V
2911	4822 122 33496	100nF	10%	63V
2913	4822 122 33496	100nF	10%	63V
2914	4822 122 31965	220pF	5%	
2915	4822 122 31797	22nF	10%	63V
2916	4822 122 33496	100nF	10%	63V
2917	4822 122 33496	100nF	10%	63V
2918	4822 122 33496	100nF	10%	63V
2919	4822 122 31765	100pF	5%	50V
2920	4822 122 33496	100nF	10%	63V
2921	4822 122 31644	2,2nF	10%	63V
2922	4822 122 31772	47pF		